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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/711,762	11/13/2000	Charles E. Boice	END920000090US1	7744

7590 04/21/2004
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EXAMINER

PARSONS, CHARLES E

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/711,762

Applicant(s)

BOICE ET AL.

Examiner

Charles Parsons

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-80 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 53 is/are allowed.
- 6) ☒ Claim(s) 1,6,17-19,27,32,43-45,55,60 and 71-73 is/are rejected.
- 7) ☒ Claim(s) 2-5,7-16,28-42,56-58 and 61-70 is/are objected to.
- 8) ☒ Claim(s) 20-26,46-52,54,55 and 74-80 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 6, 17-19, 27, 32, 43-45, 55, 60, 71-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Sethuraman.

Claim 1, 27, 55: A method for processing a sequence of video frames, said method comprising:

dynamically encoding said sequence of video frames to produce a pseudo constant bits per frame compressed signal at a scene change within said sequence of video frames, said dynamically encoding comprising: (See Lee column 11 lines 30-35, note that he uses the constant bit rate scheme for Type 0 scene changes.)

detecting when a new scene occurs in the sequence of video frames; (See Lee figure 3 items 12 and 14 showing two types of scene change detectors) and

responsive to said detecting, dynamically determining a group of frequency domain pixel data to be retained for a frame of the new scene. (See column 21 lines 25-30. Here he teaches that he uses a p Frame for each detected scene change that falls with a certain constraint. Furthermore at the time the invention was made, it was well known in the art, that even when a scene change is detected, some of the data can be retained for the construction of the new initial frame. In Lee's particular case the new frame is a P frame which inherently contains some of the data from previous frames. Furthermore, as taught by Sethuraman, a typical MPEG Encoder intra-codes a large percentage of the macroblocks in the first frame upon a scene change. See column 1 lines 42-55. Note that he does not state that all of the data is refreshed but only a portion, just like the current invention. Therefore it would have been obvious to one of ordinary skill in the art,

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to intra code only a portion of the pixel data because by doing so, one would be able to maintain a steady bit rate by avoiding the typical spikes in data required when encoding an entire I frame. (See figures 19a-19b as well as column 9 lines 9-19 of Lee)

Claim 17, 43, 71: The method of claim 1, wherein after a final frame count, if the actual frame bits is smaller than the difference of a predefined number and a guard band value, the difference is computed and a number of zero bytes according to this difference is added to the final picture count to ensure said pseudo-constant bits per frame compressed signal. (At the time the invention was made, bit stuffing was well known and utilized for the purposes of maintaining a constant bit rate in order to prevent buffer underflow.)

Official Notice Served

Claim 18, 44, 72: The method of claim 1, wherein said method is implemented within an MPEG encoder. (See Lee column 1 lines 38-45 as well as column 2 lines 8-12.)

Claim 19, 45, 73: The method of claim 1, wherein said dynamically encoding further comprises encoding said frame of the new scene as a intra-coded frame. (See claim 1 rejection)

Claim 6, 32, 60: The method of claim 1, wherein said dynamically determining comprises determining said group of frequency domain pixel data to be retained for said frame of the new scene by evaluating picture difficulty of the new scene. (See Lee figure 29 as well as column 10 lines 53-65. Note that he uses two types of detectors and encodes the new scene according to how much motion occurs between frames. Inherently the more motion present the more difficult it is to encode thus requiring more data.) Official notice served.

Allowable Subject Matter

3. Claim 53 is allowed.

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4. Claims 2-5, 7-16, 28-31, 33-42, 56-58, and 61-70 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

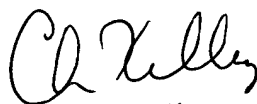
5. The following is a statement of reasons for the indication of allowable subject matter: The combination of elements claimed was not found in a prior art search nor considered obvious by the Examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles E Parsons whose telephone number is 703-305-3862. The examiner can normally be reached on M-TH 7AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on 703-305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CEP


CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
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